WHAT IS CLAIMED IS:

1. *Lactobacillus* sp. BC-Y009 (KCTC-0774BP).

2. *Acetobacter* sp. BC-Y058 (KCTC-0773BP).

3. A pharmaceutical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.* and *Pediococcus sp.* bacteria in an amount effective to prevent or treat obesity and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

4. The pharmaceutical composition according to claim 3, wherein said microorganism is selected from the group consisting of *Acetobactor* sp., *Lactobacillus* sp. and *Lactococcus* sp. bacteria.

5. The pharmaceutical composition according to claim 3, wherein said microorganism is selected from the group consisting of *Acetobacter xylinum, Acetobacter* BC-Y058, *Acetobacter hansenii, Acetobacter pasteurianus, Acetobacter aceti, Leuconostoc sp., Bacillus sp., Lactobacillus* BC-Y009, *Lactobacillus brevis, Lactobacillus helveticus, Lactobacillus bulgaricus, Lactobacillus casei, Lactobacillus kefir, Lactobacillus keriranofaciens, Lactobacillus bifidus, Lactobacillus sake, Lactobacillus reuteri, Lactobacillus lactis, Lactobacillus delbrueckii, Lactobacillus helveticusglucos var. jugurti., Lactococcus cremoris, Bifidobacterium bifidium, Streptococcus thermophilus* and *Pediococcus sp.*

6. The pharmaceutical composition according to claim 3, wherein said microorganism is selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

7. The pharmaceutical composition according to claim 3, which is a formulation suitable for oral administration.

8. The pharmaceutical composition according to claim 3, which is a formulation coated with enteric coating materials.

9. The pharmaceutical composition according to claim 7, which is a formulation coated with enteric coating materials.

10. A pharmaceutical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp.*, *Leuconostoc sp.*, *Bacillus sp.*, *Lactobacillus sp.*, *Streptococcus sp.*, *Bifidobacterium sp.*, *Lactococcus sp.* and *Pediococcus sp.* bacteria in an amount effective to prevent or treat diabetes mellitus and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

11. The pharmaceutical composition according to claim 10, wherein said microorganism is selected from the group consisting of *Acetobactor sp.*, *Lactobacillus sp.* and *Lactococcus sp.* bacteria.

12. The pharmaceutical composition according to claim 10, wherein said microorganism is selected from the group consisting of *Acetobacter xylinum*, *Acetobacter* BC-Y058, *Acetobacter hansenii*, *Acetobacter pasteurianus*, *Acetobacter aceti*, *Leuconostoc sp.*, *Bacillus sp.*, *Lactobacillus* BC-Y009, *Lactobacillus brevis*, *Lactobacillus helveticus*, *Lactobacillus bulgaricus*, *Lactobacillus casei*, *Lactobacillus kefir*, *Lactobacillus keriranofaciens*, *Lactobacillus bifidus*, *Lactobacillus sake*,

Lactobacillus reuteri, Lactobacillus lactis, Lactobacillus delbrueckii, Lactobacillus helveticusglucos var. jugurti., Lactococcus cremoris, Bifidobacterium bifidium, Streptococcus thermophilus and *Pediococcus sp.*

13. The pharmaceutical composition according to claim 10, wherein said microorganism is selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

14. The pharmaceutical composition according to claim 10, which is a formulation suitable for oral administration.

15. The pharmaceutical composition according to claim 10, which is a formulation coated with enteric coating materials.

16. A method for preventing or treating obesity, comprising administering to a subject in need thereof a pharmacuetical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.* and *Pediococcus sp.* bacteria in an amount effective to prevent or treat obesity and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

17. The method according to claim 16, wherein the pharmaceutical composition comprises at least one microorganism selected from the group consisting of *Acetobactor* sp., *Lactobacillus* sp. and *Lactococcus* sp. bacteria.

18. The method according to claim 16, wherein the pharmaceutical composition comprises at least one microorganism selected from the group consisting of *Acetobacter xylinum, Acetobacter*

BC-Y058, *Acetobacter hansenii, Acetobacter pasteurianus, Acetobacter aceti, Leuconostoc sp., Bacillus sp., Lactobacillus* BC-Y009, *Lactobacillus brevis, Lactobacillus helveticus, Lactobacillus bulgaricus, Lactobacillus casei, Lactobacillus kefir, Lactobacillus keriranofaciens, Lactobacillus bifidus, Lactobacillus sake, Lactobacillus reuteri, Lactobacillus lactis, Lactobacillus delbrueckii, Lactobacillus helveticusglucos var. jugurti., Lactococcus cremoris, Bifidobacterium bifidium, Streptococcus thermophilus* and *Pediococcus sp.*

19. The method according to claim 16, wherein the pharmaceutical composition comprises at least one microorganism selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

20. The method according to claim 16, wherein the pharmaceutical composition is a formulation suitable for oral administration.

21. The method according to claim 16, wherein the pharmaceutical composition is a formulation coated with enteric coating materials.

22. The method according to claim 20, wherein the pharmaceutical composition is a formulation coated with enteric coating materials.

23. A method for preventing or treating diabetes mellitus, comprising administering to a subject in need thereof a pharmacuetical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.* and *Pediococcus sp.* bacteria in an amount effective to prevent or treat

diabetes mellitus and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

24. The method according to claim 23, wherein the pharmaceutical composition comprises at least one microorganism selected from the group consisting of *Acetobactor sp.*, *Lactobacillus sp.* and *Lactococcus sp.* bacteria.

25. The method according to claim 23, wherein the pharmaceutical composition comprises at least one microorganism selected from the group consisting of *Acetobacter xylinum*, *Acetobacter* BC-Y058, *Acetobacter hansenii*, *Acetobacter pasteurianus*, *Acetobacter aceti*, *Leuconostoc sp.*, *Bacillus sp.*, *Lactobacillus* BC-Y009, *Lactobacillus brevis*, *Lactobacillus helveticus*, *Lactobacillus bulgaricus*, *Lactobacillus casei*, *Lactobacillus kefir*, *Lactobacillus keriranofaciens*, *Lactobacillus bifidus*, *Lactobacillus sake*, *Lactobacillus reuteri*, *Lactobacillus lactis*, *Lactobacillus delbrueckii*, *Lactobacillus helveticusglucos var. jugurti.*, *Lactococcus cremoris*, *Bifidobacterium bifidium*, *Streptococcus thermophilus* and *Pediococcus sp.*

26. The method according to claim 23, wherein the pharmaceutical composition comprises at least one microorganism selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

27. The method according to claim 23, wherein the pharmaceutical composition is a formulation suitable for oral administration.

28. The method according to claim 23, wherein the pharmaceutical composition is a formulation coated with enteric coating materials.

29. A method for controlling [or preventing] weight gain, comprising administering to a subject in need thereof a pharmaceutical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.* and *Pediococcus sp*. bacteria in an effective amount and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

30. The method according to claim 29, wherein the said microorganism is selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

31. The method according to claim 29, wherein the pharmaceutical composition is suitable for oral administration.

32. The method according to claim 29, wherein the pharmaceutical composition is coated with enteric coating materials.

33. A method for reducing weight gain, comprising administering to a subject in need thereof a pharmaceutical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.* and *Pediococcus sp*. bacteria in an effective amount and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

34. The method according to claim 33, wherein the said microorganism is selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

35. The method according to claim 33, wherein the pharmaceutical composition is suitable for oral administration.

36. The method according to claim 33, wherein the pharmaceutical composition is coated with enteric coating materials.

37. A method for controlling blood glucose level, comprising administering to a subject in need thereof a pharmaceutical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.* and *Pediococcus sp.* bacteria in an effective amount and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

38. The method according to claim 37, wherein the said microorganism is selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

39. The method according to claim 37, wherein the pharmaceutical composition is suitable for oral administration.

40. The method according to claim 37, wherein the pharmaceutical composition is coated with enteric coating materials.

41. The method according to claim 37, wherein a normal blood glucose level is not affected.

42. A method for controlling absorption of blood lipid, comprising comprising administering to a subject in need thereof a pharmaceutical composition comprising at least one microorganism selected from the group consisting of *Acetobacter sp., Leuconostoc sp., Bacillus sp., Lactobacillus sp., Streptococcus sp., Bifidobacterium sp., Lactococcus sp.*

and *Pediococcus sp*. bacteria in an effective amount and a pharmaceutically acceptable carrier, wherein the microorganism is capable of producing polysaccharide.

43. The method according to claim 42, wherein the said microorganism is selected from the group consisting of *Acetobacter* BC-Y058 and *Lactobacillus* BC-Y009.

44. The method according to claim 42, wherein the pharmaceutical composition is suitable for oral administration.

45. The method according to claim 42, wherein the pharmaceutical composition is coated with enteric coating materials.